Title (en)

Liquid crystal device

Title (de)

Flüssigkristallvorrichtung

Title (fr)

Dispositif à cristal liquide

Publication

EP 0789261 A1 19970813 (EN)

Application

EP 97102099 A 19970210

Priority

JP 2406496 A 19960209

Abstract (en)

A liquid crystal device is constituted by a pair of oppositely disposed substrates (11,12) each provided with an alignment control layer (15,16), and a liquid crystal layer (17) comprising a liquid crystal material and disposed between the substrates with a spacer member (18). In the device, the spacer member (18) has an electrical conductivity larger than that of the liquid crystal material. Further, the liquid crystal layer containing the spacer member has a first resistance in a direction of a normal to the substrates in a prescribed temperature range substantially lower than a second resistance of a corresponding liquid crystal layer, in the identical direction, consisting only of the liquid crystal material and having the identical plane area and thickness. The liquid crystal device is effective in providing an improved drive margin in a wide temperature range while suppressing a DC offset voltage component applied to the liquid crystal layer. <IMAGE>

IPC 1-7

G02F 1/1339; G02F 1/1333; G02F 1/1337; G02F 1/141

IPC 8 full level

G02F 1/133 (2006.01); **G02F 1/1333** (2006.01); **G02F 1/1339** (2006.01)

CPC (source: EP US)

G02F 1/133345 (2013.01 - EP US); **G02F 1/13392** (2013.01 - EP US)

Citation (applicant)

- US 4367924 A 19830111 - CLARK NOEL A [US], et al
- US 5082587 A 19920121 - JANULIS EUGENE P [US]
- WO 9322396 A1 19931111 - MINNESOTA MINING & MFG [US]
- WO 8604060 A1 19860717 - MERCK PATENT GMBH [DE]
- JP H04272982 A 19920929 - SEKISUI CHEMICAL CO LTD
- JP S59193426 A 19841102 - CANON KK [JP]
- JP S59193427 A 19841102 - CANON KK [JP]
- JP S60156046 A 19850816 - CANON KK [JP]
- JP S60156047 A 19850816 - CANON KK [JP]
- JP S63311231 A 19881220 - CANON KK

Citation (search report)

- [XA] EP 0289415 A1 19881102 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- [A] EP 0420340 A1 19910403 - PHILIPS NV [NL]
- [A] EP 0234429 A2 19870902 - SEMICONDUCTOR ENERGY LAB [JP]
- [A] EP 0294852 A2 19881214 - CANON KK [JP]
- [A] US 5465169 A 19951107 - EGUCHI KEN [JP]
- [X] PATENT ABSTRACTS OF JAPAN vol. 018, no. 481 (P - 1797) 7 September 1994 (1994-09-07)
- [A] PATENT ABSTRACTS OF JAPAN vol. 018, no. 178 (P - 1717) 25 March 1994 (1994-03-25)

Cited by

EP1279197B1

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

EP 0789261 A1 19970813; JP 3093627 B2 20001003; JP H09218413 A 19970819; US 6122031 A 20000919

DOCDB simple family (application)

EP 97102099 A 19970210; JP 2406496 A 19960209; US 79833597 A 19970210